

## **Claims**

1.

1           A blow molded plastic hot-fill container that includes at least one vacuum panel for  
2   inward flexure under vacuum, wherein said vacuum panel is externally concave as viewed in cross  
3   section from a first direction and externally convex as viewed in cross section from a second  
4   direction orthogonal to said first direction.

2.

1           The container set forth in claim 1 wherein said container has a sidewall extending  
2   from a base to a neck finish, and wherein said at least one vacuum panel is disposed in said sidewall.

3.

1           The container set forth in claim 2 including a base for supporting the container, a  
2   body extending from said base, a dome extending from said body and a neck finish extending from  
3   said dome, wherein said at least one vacuum panel is disposed in said dome.

4.

1           The container set forth in claim 2 wherein said sidewall, including said at least one  
2   vacuum panel, is of generally uniform wall thickness.

5.

1           The container set forth in claim 4 wherein said at least one vacuum panel includes  
2 an array of vacuum panels at uniform spacing around an axis of said container.

6.

1           The container set forth in claim 5 wherein said vacuum panels are separated from  
2 each other by circumferentially spaced ribs.

7.

1           The container set forth in claim 6 wherein said ribs have external surfaces on a  
2 common surface of revolution, and wherein said vacuum panels are recessed radially inwardly from  
3 said surface of revolution.

8.

1           A blow-molded plastic hot-fill container that includes:  
2 a base for supporting the container, a body extending from said base, a dome  
3 extending from said body and a neck finish extending from said dome,  
4 wherein said dome includes an array of vacuum panels, each of said vacuum panels  
5 being externally concave as viewed in cross section from a first direction and externally convex as  
6 viewed in cross section from a second direction orthogonal to said first direction.

9.

1           The container set forth in claim 8 wherein said vacuum panels are externally concave  
2 in cross section as viewed tangentially of said dome and externally convex in cross section as  
3 viewed axially of said dome.

10.

1           The container set forth in claim 8 wherein said dome, including said array of vacuum  
2 panels, is of generally uniform wall thickness.

11.

1           The container set forth in claim 8 wherein said vacuum panels are separated from  
2 each other by circumferentially spaced ribs in said dome.

12.

1           The container set forth in claim 11 wherein said ribs are connected to annular rings  
2 that encircle said dome above and below said vacuum panels, wherein said ribs have external  
3 surfaces on a common surface of revolution, and wherein said vacuum panels are recessed radially  
4 inwardly from said surface of revolution.

13.

1 A blow-molded plastic hot-fill container that includes:

2 a base for supporting the container, a body extending from said base, a dome  
3 extending from said body and a neck finish extending from said dome,

4 wherein said dome includes an array of flexible resilient vacuum panels separated  
5 from each other by circumferentially spaced ribs,

6 wherein each of said vacuum panels is externally concave as viewed in cross section  
7 from a first direction and externally convex is viewed in cross section from a second direction  
8 orthogonal to said first direction, and

9 wherein said dome, including said array of vacuum panels, is of generally uniform  
10 wall thickness and circular in cross section.

14.

1 The container set forth in claim 13 wherein said vacuum panels are externally  
2 concave in cross section as viewed tangentially of said dome and externally convex in cross section  
3 as viewed axially of said dome.

15.

1           The container set forth in claim 13 wherein said ribs are connected to annular rings  
2   that encircle said dome above and below said vacuum panels, wherein said ribs have external  
3   surfaces on a common surface of revolution, and wherein said vacuum panels are recessed radially  
4   inwardly from said surface of revolution.

16.

1           A method of making a hot-fill plastic container that includes the step of blow  
2   molding a container having at least one vacuum panel for inward flexure under vacuum, wherein  
3   said vacuum panel is externally concave as viewed in cross section from a first direction and  
4   externally convex as viewed in cross section from a second direction orthogonal to said first  
5   direction.

17.

1           A container made in accordance with the method set forth in claim 16.

18.

1           A method of making a hot-fill plastic container that includes the step of blow  
2   molding a container having a base for supporting the container, a body extending from said base,  
3   a dome extending from said body and a neck finish extending from said dome, wherein said dome  
4   includes an array of vacuum panels, each of said vacuum panels being externally concave as viewed

5 in cross section from a first direction and externally convex as viewed in cross section from a second  
6 direction orthogonal to said first direction.

19.

1 The method set forth in claim 18 wherein said container is blow molded from a  
2 preform.

20.

1 The method set forth in claim 19 wherein said vacuum panels are externally concave  
2 in cross section as viewed tangentially of said dome and externally convex in cross section as  
3 viewed axially of said dome.

21.

1 The method set forth in claim 19 wherein said dome, including said array of vacuum  
2 panels, is of generally uniform wall thickness.

22.

1 The method set forth in claim 18 wherein said vacuum panels are separated from  
2 each other by circumferentially spaced ribs in said dome.

23.

1           The method set forth in claim 22 wherein said ribs are connected to annular rings that  
2 encircle said dome above and below said vacuum panels, wherein said ribs have external surfaces  
3 on a common surface of revolution, and wherein said vacuum panels are recessed radially inwardly  
4 from said surface of revolution.

24.

1           A molded plastic container made in accordance with the method set forth in claim

2   19.

25.

1           A molded plastic container made in accordance with the method set forth in claim

2   18.